EFFECTIVENESS OF HOME-BASED NEWBORN CARE (HBNC) ON KNOWLEDGE, ATTITUDE AND PRACTICES AMONG ASHAs (ACCREDITED SOCIAL HEALTH ACTIVISTS) WORKING IN RURAL AREAS OF UTTARAKHAND

SYNOPSIS OF THE THESIS

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DECLARATION

I hereby declare that the thesis entitled "**Effectiveness of Home-Based Newborn Care (HBNC) on knowledge, attitude and practices among ASHAs (Accredited Social Health Activists) working in rural areas of Uttarakhand**" to be submitted for the Degree of Doctor of Philosophy is my original work and it has not formed the basis for the award of any degree, diploma, associateship or fellowship of similar other titles. The study has not been submitted to any other University or Institution for the award of any degree or diploma.

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I. Background of the study:

Over 50% of the child deaths occur under the age of five years. In 2008, the number of death of under five children reported to occur was 1,829,826 out of which 1,003,767 (54.8%) died in the neonatal period. Preterm birth, neonatal infections, asphyxia, sepsis, diarrhoea, malnutrition etc. are considered to be the main reasons for most neonatal deaths (1,2,3). India ranks second with the largest population in the world and accounts for fifth of the global under 5 child death. Therefore control of child death is very crucial if the world is destined to achieve the targeted Sustainable Development Goal (SDG). Government of India, under the Ministry of Health and Family Welfare and the National Rural Health Mission (NRHM) have undertaken initiatives to control child death by introducing various health programmes. Interventions have been made to further minimise the neonatal mortality rate in both rural and urban areas. Under Janani Suraksha Yojana efforts have been made to increase delivery of children in hospitals under the supervision of skilled medical attendants. Families have also been provided cash incentives in the form of encouragement for better medical care and to support improving the nutrition status. However the achievement with respect to control of neonatal mortality rate is not up to the mark in comparison to the rapid economic growth of the country. The present neonatal mortality rate is still far from achieving the targeted goal of less than 30/1000 live births. The failure may be due to the way of function of the health care departments. At this point of time it is imperative to execute sincere and collaborative services from all related departments including government health departments, private health sectors and civil society organizations.

Various factors influence the survival of children after birth that include proper breastfeeding, maintaining warm body temperature, periodic medical check up and getting treatment etc. Early few years of birth of children is a stage of life where possible maximum care must be provided as they are exposed all of a sudden to polluted external environment from the sterile condition. The children need to be protected in all respects in the new environment. As a result huge number of neonates falls under prey in economically least developed and developing countries. India accounts for 17% of the world population and 20% of the global births. Around 27 million live births and 2 million deaths of the under five children are reported each year. The annual mortality rate of under five children in India represents a quarter of the global child mortality (4). Leading causes of dead of children under five in most rural areas of India includes premature birth, neonatal sepsis, birth asphyxia, pneumonia, diarrhoea etc (5,6).

Efforts have been made to reduce the dead rate by incorporating new strategies with respect to premature birth, asphyxia, pneumonia etc. in several child survival programmes (7-10). Reports are available on the successful implementation of some effective measures related to child health care being taken up by rural health care workers. Management of pneumonia in under five children using cotrimoxazole could result in 20% reduction in neonatal mortality (11) that hints the importance of possible home based care in the management of child mortality. Even though reduction in the infant mortality rate (IMR) was observed between the years 1972 (139/1000 live births) and 2009 (50/1000 live births), a huge variation in the mortality rate is still observed between rural and urban areas of India.

When the IMR in rural area is 55 per 1000 live births, it corresponds to 34 per 1000 live births in urban areas (1,2). The variation may be attributed to the environment and culture, socio-economic condition of the families, education and health status of the mothers, quality of health services available etc. Remarkable reduction in the mortality rate of under five children with at least half of the present level is required to meet the targeted millennium development goals.

II. Need for the study:

In Uttarakhand Infant Mortality Rate (IMR) has been found above the targeted range in the last few years. The recorded IMR in the year 2014 and 2016 were 32 and 33/1000 live births respectively (12). According to the report (2016) from the ministry of home affair 63% of the neonatal mortality rate (NMR) occurred within 4 weeks of birth while 5% died within 24 hours of birth. The reports were mainly gathered from the major districts like Dehradun, Haridwar and Nainital. The reason may be because these districts are comparatively more developed in the state and reports were available of the health care practices. The status of data may higher in other districts. In remote places people prefer child delivery at home. It is necessary to review the system of health care practices in the region with an aim to increase efficiency of the outcomes. Interventions in the home-based care practices of neonates with updated knowledge and practice based activities are mandatory to improve effectiveness of the services. The role of community based health care services is also need to be improved with an aim to further augment the survival rate of children in the region including newborns.

III. Statement of the problem:

A study to assess the effectiveness of Home-based Newborn Care (HBNC) on knowledge, attitude and practices among ASHAs (Accredited Social Health Activists) working in rural areas of Uttarakhand.

IV. Objectives:

1. To assess HBNC practices of mothers of newborn.
2. To assess HBNC knowledge and practices of ASHAs.
3. To implement the HBNC among ASHAs.
4. To determine post interventional HBNC knowledge and practices of ASHAs.
5. To correlate the knowledge, attitude and practices of HBNC of ASHAs.

V. Operational Definitions:

1. **Effectiveness:** It refers to significant improvement of knowledge and practices of ASHAs on newborn care after the implementation of HBNC. Measurements are based on structured knowledge questionnaires & practice checklists on HBNC.

2. **Home-based Newborn Care (HBNC):** It comprises of information associated with care of newborns at home as revised by Ministry of Health and Family Welfare, Government of India in 2014.
3. **ASHAs:** They are certified people who are trained on HBNC through ASHA trainers using a trainer module.

VI. Review of literature:

According to world health statistic, dead of 5.9 million children under five were reported in 2015 accounting for global under five mortality rate of 42.5 per 1000 live births. Amongst them 45% were newborns (13). The dead rate was reported to be 90 per 1000 live births in 1990 and 65 in 2008. However the data remained unchanged in low income countries during the period. Neonatal mortality rate was relatively high in least developed countries as compare to other industrialised nations ranging from 5 to 118 per 1000 live births (14,15). In the year 2000 to 2015 the under five mortality rate was reduced by 3.9% and if the momentum is preserved the global under-five mortality rate could be reduced to 25 per 1000 live births by 2030. To meet the target more reliable and obligatory measures need to be taken up.

The global figure is comparatively much lower as compared to Indian data. The under 5 children mortality rate in India was 123 per 1000 live births (2.2 million) in the year 1990 and it was reduced to 63 per 1000 live births (1.726 million) in the year 2010 (16). But failed to attain the target of less than 30 per 1000 live births by 2015 (17). One of the main reasons may be because people prefer to give birth at home in most rural areas. In India 83% of the children in rural areas are born at home and are manage to provide necessary care with the available facilities (15,18). The hospitals in the area also do not have adequate neonatal care facilities. Apart from this cost of neonatal care is comparatively high and most parents are unable to come up with the cost for it (11,19). Moreover timely arrival of the ill neonates in hospitals is also an important call that has never been answered. Hence family members including parents prefer to provide possible care of the newborns at home based on traditional beliefs and their conventional way of medication (20-23). All these factors may account for high neonatal mortality rate in India. Hence it is imperative to provide adequate home based neonatal care knowledge and practice to people mainly in the rural areas of India.

According to a study conducted on neonatal mortality in India in the year 2001-03, reported that 78% of the deaths were caused by three main reasons- prematurity and low birth weight, neonatal infections and birth asphyxia. Besides pneumonia and diarrhea accounted for 50% of deaths of the under 5 children (24). In another study Khanam N. et al. (2013) checked quality of services provided to newborns based on Primary Health Centre (MAP) module-6 guidelines. The study was conducted to 205 mothers of newborns and observed that the quality of services provided to the newborns were poor and needed to be improved further (25). Vyas Shaili. et.al. (2012) observed extensive implementation of unwanted practices during breast feeding and health care of children below five years. Importance of early and regular breastfeeding, proper care by family members, quality health care services were highlighted to maintain good health of the children (26).

Apart from this, the level of girl child mortality (1-5 years) was found to be higher than that of the boys in Indian scenario (27). It may be because of gender differentiation in the society or unavailability of adequate health services to girls especially in rural areas. Certain amendments to the child health programmes need to be made with respect to the drawbacks to further improve the quality and efficiency. Providing basic health education and home-

based neonatal care to the families of newborns is expected to help in reducing mortality rate of under five children including neonates. Active involvement community health care workers and practice of community based intervention programmes are required to enhance the quality of health care services provided primarily in rural areas. This may even help in significant reduction of the child mortality rate in future.

VII. Research Methodology:

Research Approach: Quantitative Experimental Approach

Research design: Quasi Experimental Study

Participants: Mothers of newborn (onetime assessment) & ASHAs (pre and post assessment)

Setting: Selected community area of Uttarakhand.

Sample size: The study universe will be comprised of population of six Community Developmental Blocks (i.e. Kalsi, Chakrata, Doiwala, Raipur, Vikasnagar, Sahaspur) of District Dehradun. One out of six Community Developmental Blocks will be selected. From the selected block, 15% of Mothers of newborn of the total population, & all ASHAs working in selected Block will be included in the study.

Sampling technique: Selection of the Mothers of newborn - multistage selection of area randomly as subcenters, and selection of samples from selected subcenter & **selection of ASHAs** – all the ASHAs working in the selected block will be included.

- **Multistage selection of area:** It will be done by dividing the PHCs of selected block and selecting the number of subcenters using random table as clusters and collecting the mothers from each cluster.

Sampling criteria:

- Inclusion criteria:
  - ✓ Mothers of newborn within 30 days.
  - ✓ Mothers who are available at the time of data collection.
  - ✓ Trained ASHAs on HBNC in selected Block.
  - ✓ Mothers and ASHAs who give consent for participation.
- Exclusion criteria:
  - ✓ Mothers with postnatal psychosis.

Ethical consideration:

Ethical permissions for conduction of the study will be obtained from institution ethical committee, SRHU. Administrative permission for carrying out study involving ASHAs & mothers will be obtained from BMO/CMO.

Tools and techniques:

- Baseline data
- Interview schedule on existing knowledge on newborn care
- Self reported practice check list on newborn care
- Focus group discussion on newborn care

Validity:

Content validity is the degree of effective and comprehensive measurement of a test. For this study, the five research experts will be requested to give their opinion about the content areas and its relevancy, clarity and appropriateness of the items.

Reliability:

The reliability refers to the accuracy and consistency of information obtained in a study. It is the ability of data gathering devices to obtain consistent results. Reliability may be conducted in 20 samples.

Data collection procedure:

From the selected PHCs, sub-centres will be selected using random table. The Mothers of Newborn will be identified from the sub-centres. Written consent will be obtained from the mother participants. After explaining the objective of the study, data collection will be performed using predesigned & pretested tools. Data will include socio-demographic status, age, gender, education status, monthly income etc.

ASHAs working in the selected block will be interviewed based on existing knowledge and practices of newborn care. Home - based newborn care will be administered to the ASHAs. Post interventional assessment will be done after 7 days by revaluating their knowledge and practices on newborn care. Focus Group Discussion (FGD) will be conducted after the post test of the study with ASHAs. The questions will focus on understanding the challenges/difficulties/barriers/ or gaps faced by ASHA during providing services to the newborns and mothers.

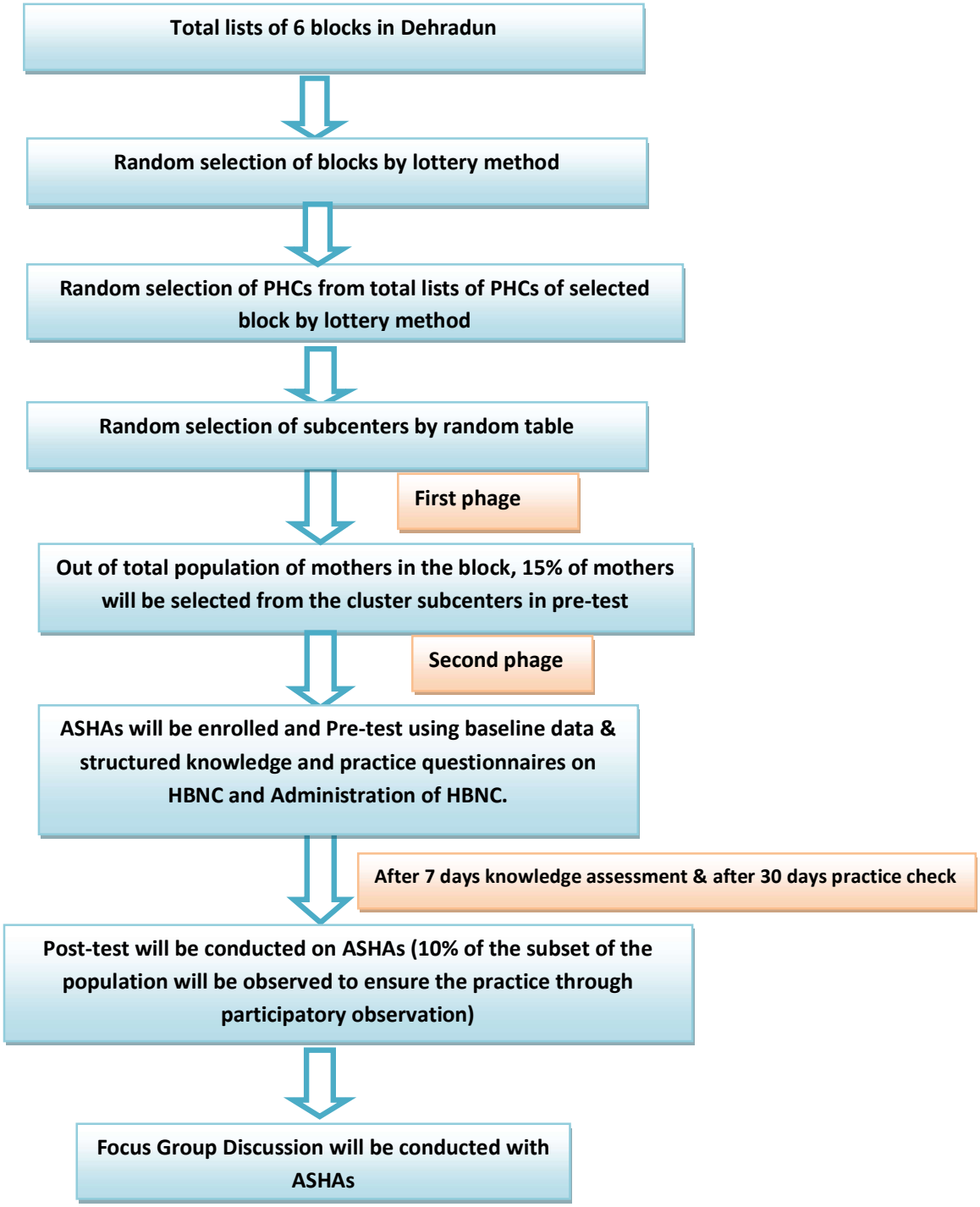
Plan for data analysis:

Data analysis will be based on the objectives and hypotheses stated proposed in this study using descriptive and inferential statistics.

The following statistical tests may be applied for analyzing the data.

- Frequency and percentage
- Measurement of central tendency mean, standard deviation
- Parametric tests
- Non – parametric test

Step by step research process:


Total lists of 6 blocks in Dehradun
Random selection of blocks by lottery method
Random selection of PHCs from total lists of PHCs of selected block by lottery method
Random selection of subcenters by random table
First phage
Out of total population of mothers in the block, 15% of mothers will be selected from the cluster subcenters in pre-test
Second phage
ASHAs will be enrolled and Pre-test using baseline data & structured knowledge and practice questionnaires on HBNC and Administration of HBNC.
After 7 days knowledge assessment & after 30 days practice check
Post-test will be conducted on ASHAs (10% of the subset of the population will be observed to ensure the practice through participatory observation)
Focus Group Discussion will be conducted with ASHAs

VIII. Expected outcome:

ASHAs in the selected block will have desirable knowledge and perform quality essential newborn care practices thereby benefiting the mothers and the newborns of the block.

IX. References:

1. SRS Bulletin January 2011. http://www.censusindia.gov.in. Accessed on May 14, 2011.
2. Pregnancy, childbirth, and postpartum and newborn care: A Guide for essential Practice. Geneva. WHO 2003
3. The Million Death Study Collaborators. Causes of neonatal and child mortality in India: a nationally representative mortality survey. Lancet 2010:376;1853-60
4. WHO Country Cooperation Strategy 2006-2011.
5. WHO. The World Health Report 1998. Geneva: WHO, 1998: 63.
6. National Neonatology Forum. National neonatal-perinatal data base: report for the year 1995. New Delhi: Department of Pediatrics, All India Institute of Medical Sciences, 1996.
7. Kumar R. Training of traditional birth attendants for resuscitation of newborns. *Tropical Doctor* 1995; 25: 29–30.
8. Daga SR, Daga AS. Reduction in neonatal mortality with simple interventions. *J Trop Pediatr* 1989; 35: 191–95.
9. Bergman NJ, Jurisoo LA. The 'kangaroo method' for treating low birth weight babies in a developing country. *Tropical Doctor* 1994; 24: 57–60.
10. Tulloch J. Integrated approach to child health in developing countries. *Lancet* 1999; 354 (suppl II): 16–20.
11. Shanmugasundaram R, Padmapriya E, Shyamala J. Cost of neonatal intensive care. *Int J Pediatr* 1998; 65: 249–55.
12. The Million Death Study Collaborators. Causes of neonatal and child mortality in India: a nationally representative mortality survey. Lancet 2010:376;1853-60
13. World Health Statistics: 2016; Report of the Inter-Agency and Expert Group on Sustainable Development Goal Indicators. E/CN.3/2016/2/Rev.1. 19 February 2016.
14. WHO. The World Health Report 1996. Geneva: WHO, 1996: 14–15.
15. WHO. Essential newborn care: report of a technical working group 1994. Geneva: WHO, 1996.
16. Awofeso N, Rammohan A. Reducing Under-Five Mortality in India - A Review of Major Encumbrances and Suggestions for Progress. J Community Med Health Edu 2012; 2:116.

17. Lawn JE, Kerber K, Enweron-Laryea CE, Cousens S (2010) 3.6 million neonatal deaths-what is progressing and what Is not? Semin Perinatol 34: 371-386.
18. International Institute of Population Studies. National Family Health Survey, India, 1992–93. Bombay: International Institute of Population Studies, 1995: 237–38.
19. Modi N, Kirubakaran C. Reasons for admission, causes of death and costs of admission to a tertiary referral neonatal unit in India. *J Trop Pediatr* 1995; 41: 99–102.
20. Government of India. National child survival and safe motherhood programme: programme for interventions—safe motherhood and newborn care. New Delhi: MCH Division, Ministry of Health and Family Welfare, Government of India, 1994: 59.
21. Bang AT, Bang RA, Morankar VP, et al. Pneumonia in neonates: can it be managed in the community? *Arch Dis Child* 1993; 68: 550–56.
22. Sutrisna B, Reingold A, Kresno S, et al. Care-seeking for fatal illness in young children in Indramayu, West Java, Indonesia. *Lancet* 1993; 342: 887–89.
23. Bhandari N, Bahl R, Bhatnagar V, Bahn MK. Treating sick young infants in urban slum setting. *Lancet* 1996; 347: 1174–75.
24. Million Death Study Collaborators, Bassani DG, Kumar R, Awasthi S, Morris SK, Paul VK, Shet A, Ram U, Gaffey MF, Black RE, Jha P. Causes of neonatal and child mortality in India: a nationally representative mortality survey. Lancet. 2010 Nov 27;376(9755):1853-60.
25. Khanam N, Quazi SZ, Goyal RC, Athavale AV, Gaidhane AM, Agarwal SS, et al. Prospective study on quality of newborn care. Ind J Comm Health 2013; 25(4): 432 - 437
26. Vyas Shaili, Sharma Parul, Kandpal S D, Semwal Jayanti, Srivastava Anurag, Nautiyal Vipul. Community Based Cross sectional study to evaluate breast feeding practices of mothers with a view to strengthen these practices for improving the health of infants. National Journal of Community Medicine Vol 3 Issue 2 April-June 2012.
27. Claeson M, Bos ER, Mawji T, Pathmanathan I. Reducing child mortality in India in the new millennium. Bull World Health Organ. 2000;78(10):1192-9.